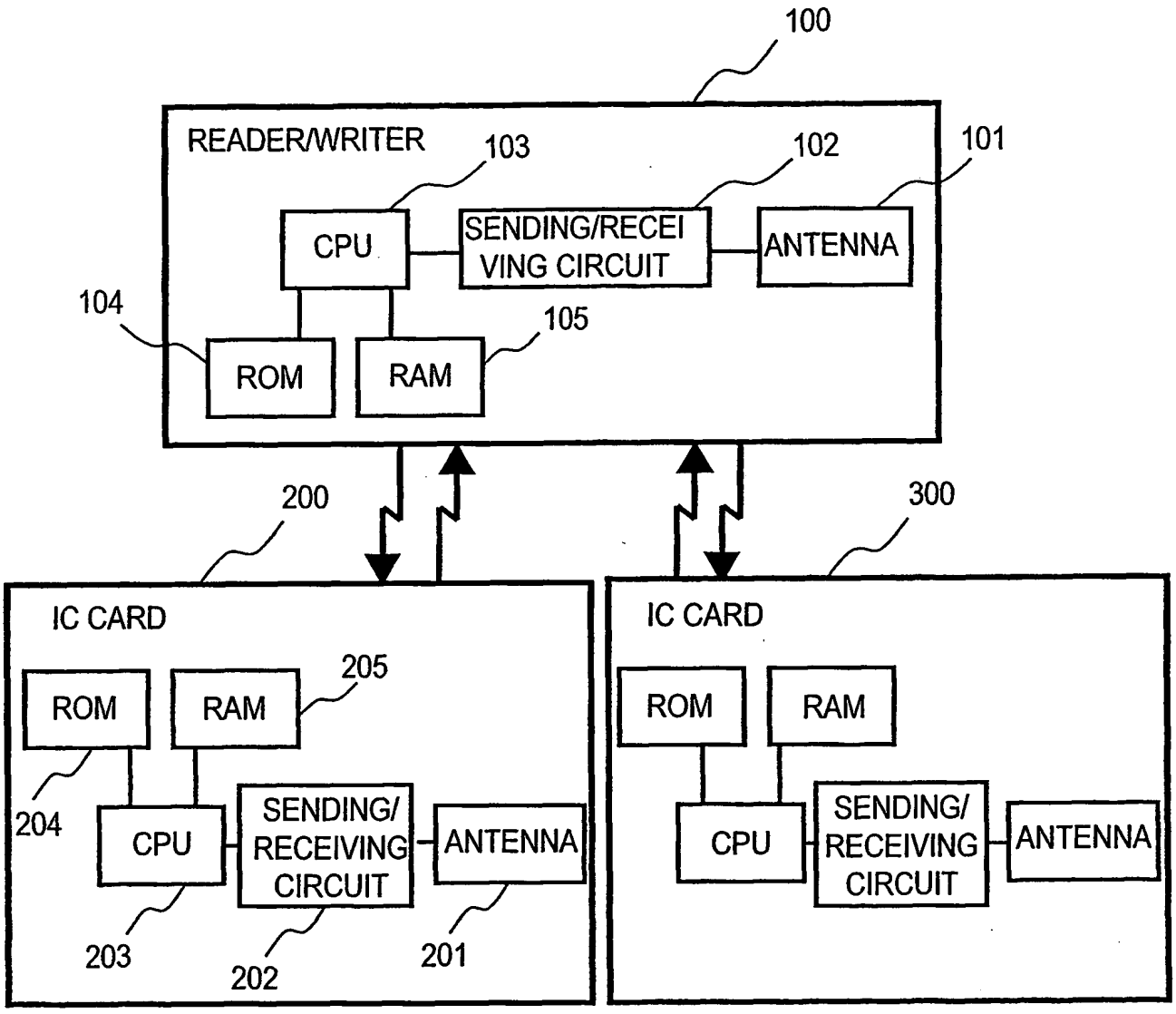
FIG.1


100
READER/WRITER
103
102
101
CPU
SENDING/RECEI VING CIRCUIT
ANTENNA
104
105
ROM
RAM
200
300
IC CARD
IC CARD
205
ROM
RAM
ROM
RAM
204
CPU
SENDING/ RECEIVING CIRCUIT
ANTENNA
CPU
SENDING/ RECEIVING CIRCUIT
ANTENNA
203
202
201

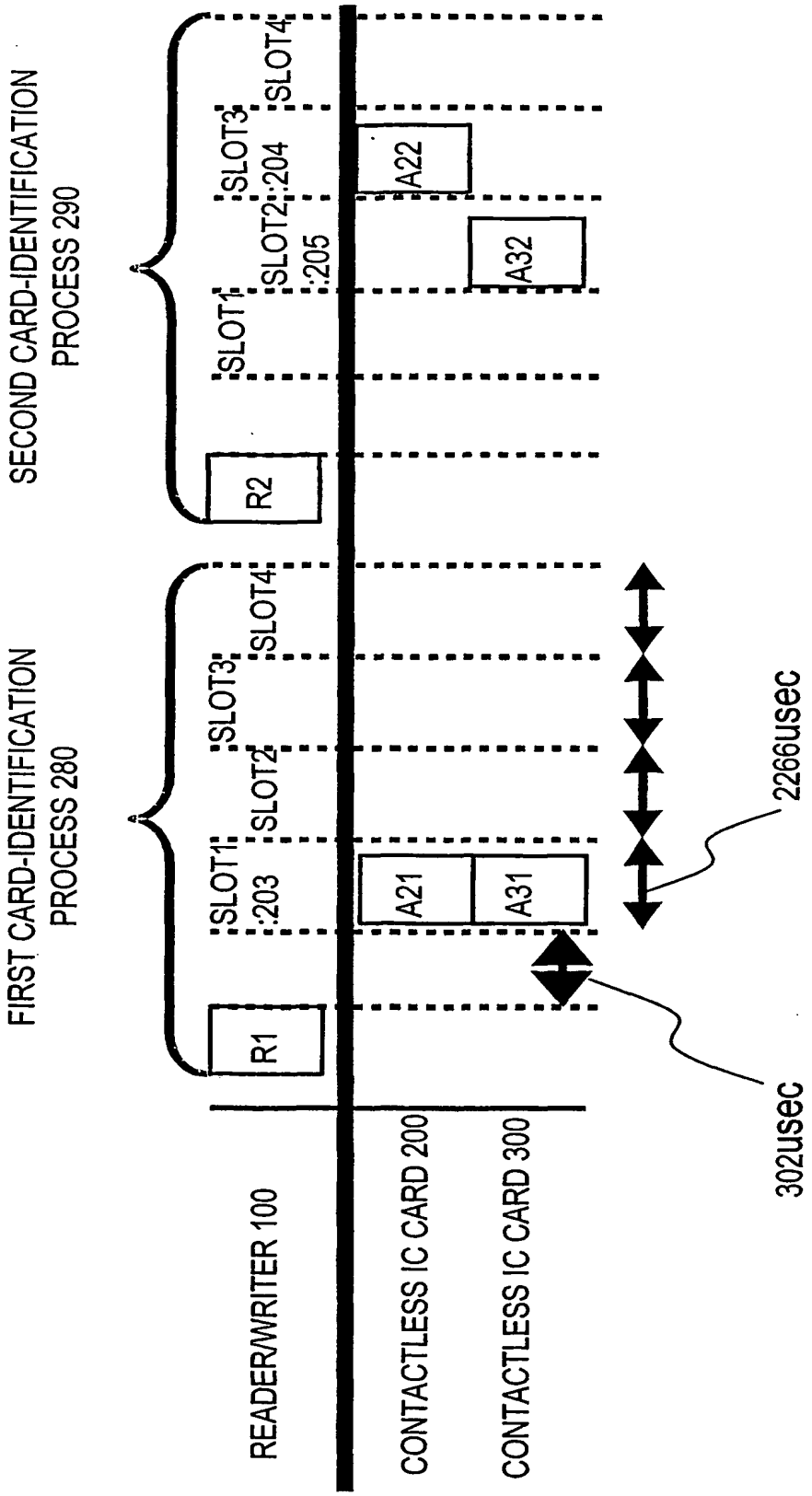
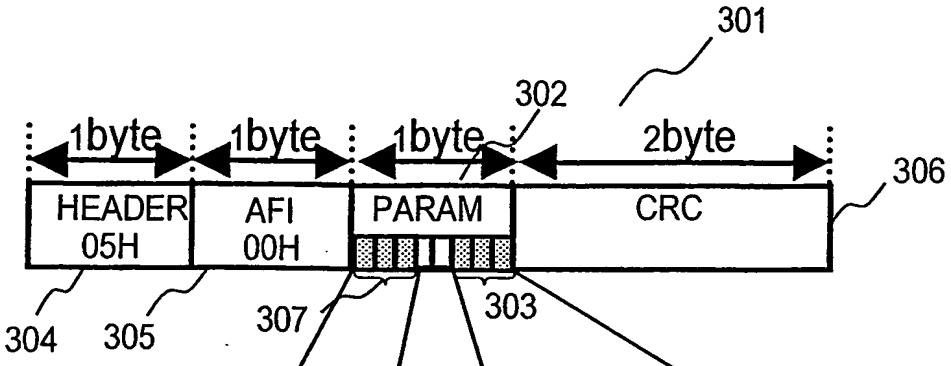

FIRST CARD-IDENTIFICATION PROCESS 280
SECOND CARD-IDENTIFICATION PROCESS 290
SLOT1
SLOT2
SLOT3
SLOT4
:203
:204
:205
R1
R2
A21
A31
A22
A32
2266usec
302usec
READER/WRITER 100
CONTACTLESS IC CARD 200
CONTACTLESS IC CARD 300

FIG.2

FIG.3



B3	B2	B1	
0	0	0	NO. OF SLOTS: $2^0 = 1$
0	0	1	NO. OF SLOTS: $2^1 = 2$
0	1	0	NO. OF SLOTS: $2^2 = 4$
0	1	1	NO. OF SLOTS: $2^3 = 8$
1	0	0	NO. OF SLOTS: $2^4 = 16$
1	0	1	NO. OF:SLOTS: RESERVE
1	1	0	NO. OF:SLOTS: RESERVE
1	1	1	NO. OF:SLOTS: RESERVE

B8	B7	B6	
0	0	0	NO DESIGNATION
0	0	1	RANDOM-NUMBER-GENERATION UNIT 1
0	1	0	RANDOM-NUMBER-GENERATION UNIT 2
0	1	1	RANDOM-NUMBER-GENERATION-REQUEST UNIT
1	0	0	RESERVE
1	0	1	RESERVE
1	1	0	RESERVE
1	1	1	RESERVE

FIG.4

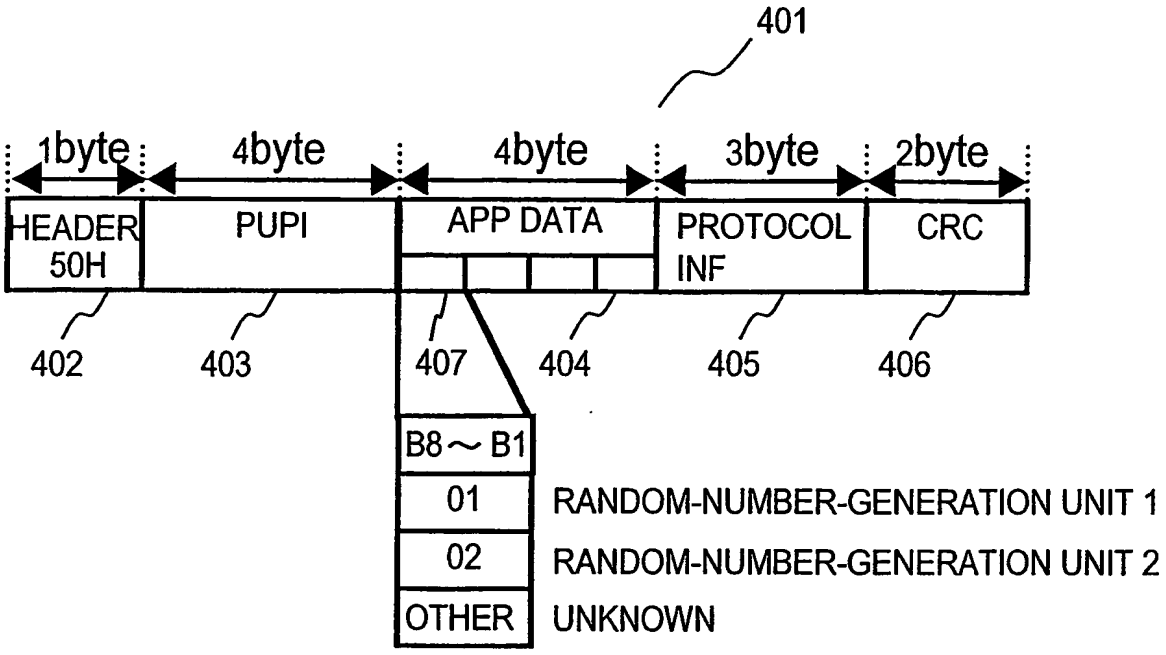

401
1byte
4byte
4byte
3byte
2byte
HEADER 50H
PUPI
APP DATA
PROTOCOL INF
CRC
402
403
407
404
405
406
B8～B1
01
RANDOM-NUMBER-GENERATION UNIT 1
02
RANDOM-NUMBER-GENERATION UNIT 2
OTHER
UNKNOWN

FIG.5 5/11

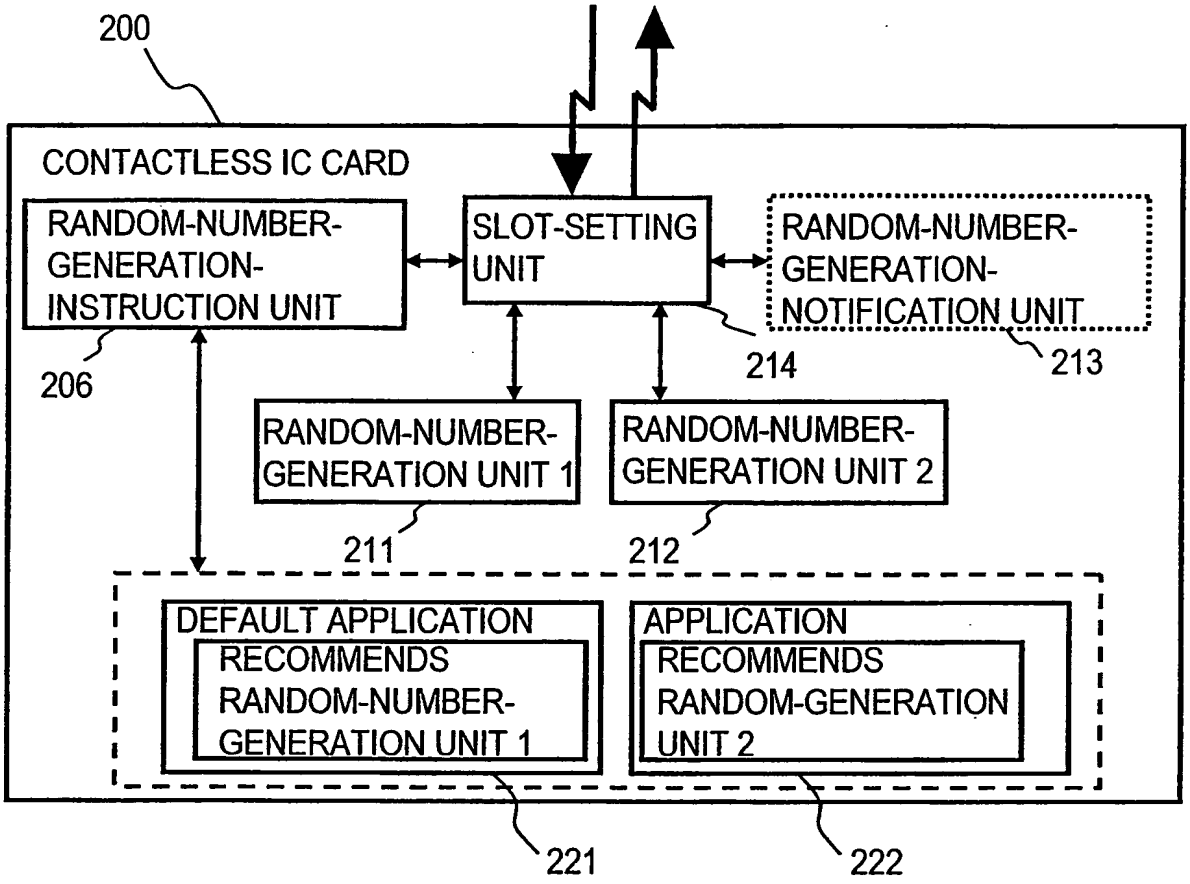
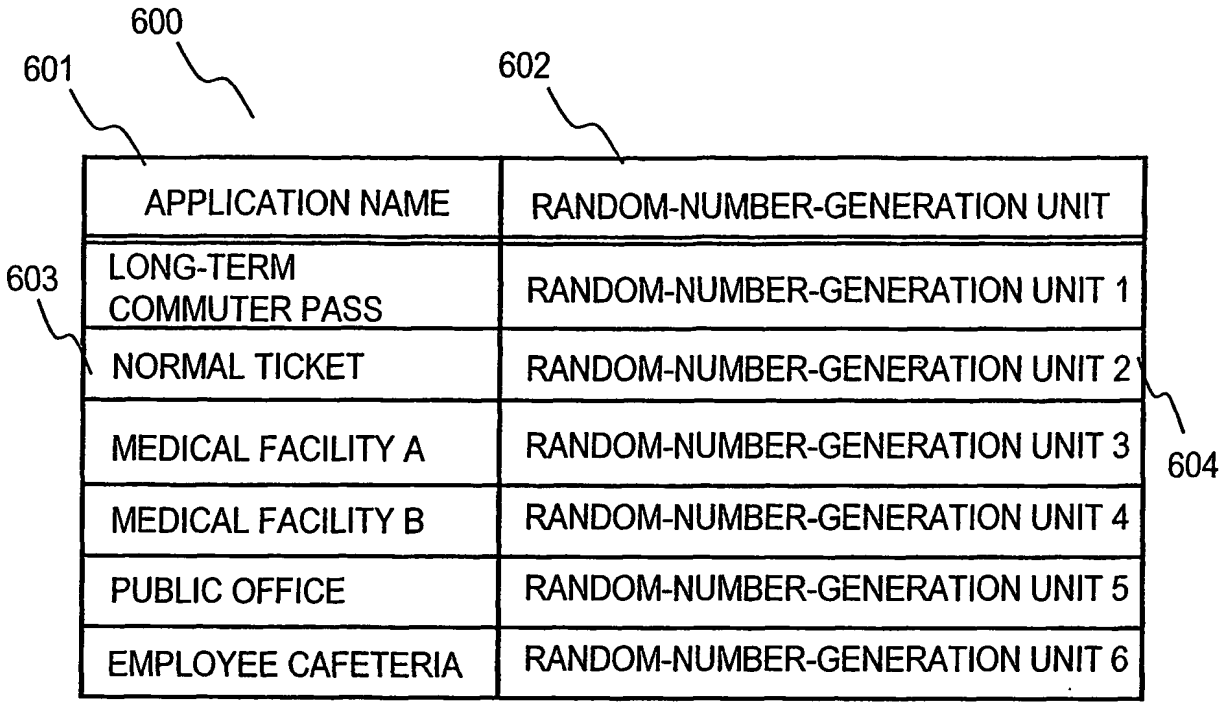

200
CONTACTLESS IC CARD
RANDOM-NUMBER-GENERATION-INSTRUCTION UNIT
SLOT-SETTING UNIT
RANDOM-NUMBER-GENERATION-NOTIFICATION UNIT
206
214
213
RANDOM-NUMBER-GENERATION UNIT 1
RANDOM-NUMBER-GENERATION UNIT 2
211
212
DEFAULT APPLICATION
RECOMMENDS RANDOM-NUMBER-GENERATION UNIT 1
APPLICATION
RECOMMENDS RANDOM-GENERATION UNIT 2
221
222

FIG.6 6/11



APPLICATION NAME	RANDOM-NUMBER-GENERATION UNIT
LONG-TERM COMMUTER PASS	RANDOM-NUMBER-GENERATION UNIT 1
NORMAL TICKET	RANDOM-NUMBER-GENERATION UNIT 2
MEDICAL FACILITY A	RANDOM-NUMBER-GENERATION UNIT 3
MEDICAL FACILITY B	RANDOM-NUMBER-GENERATION UNIT 4
PUBLIC OFFICE	RANDOM-NUMBER-GENERATION UNIT 5
EMPLOYEE CAFETERIA	RANDOM-NUMBER-GENERATION UNIT 6

FIG.7 7/11

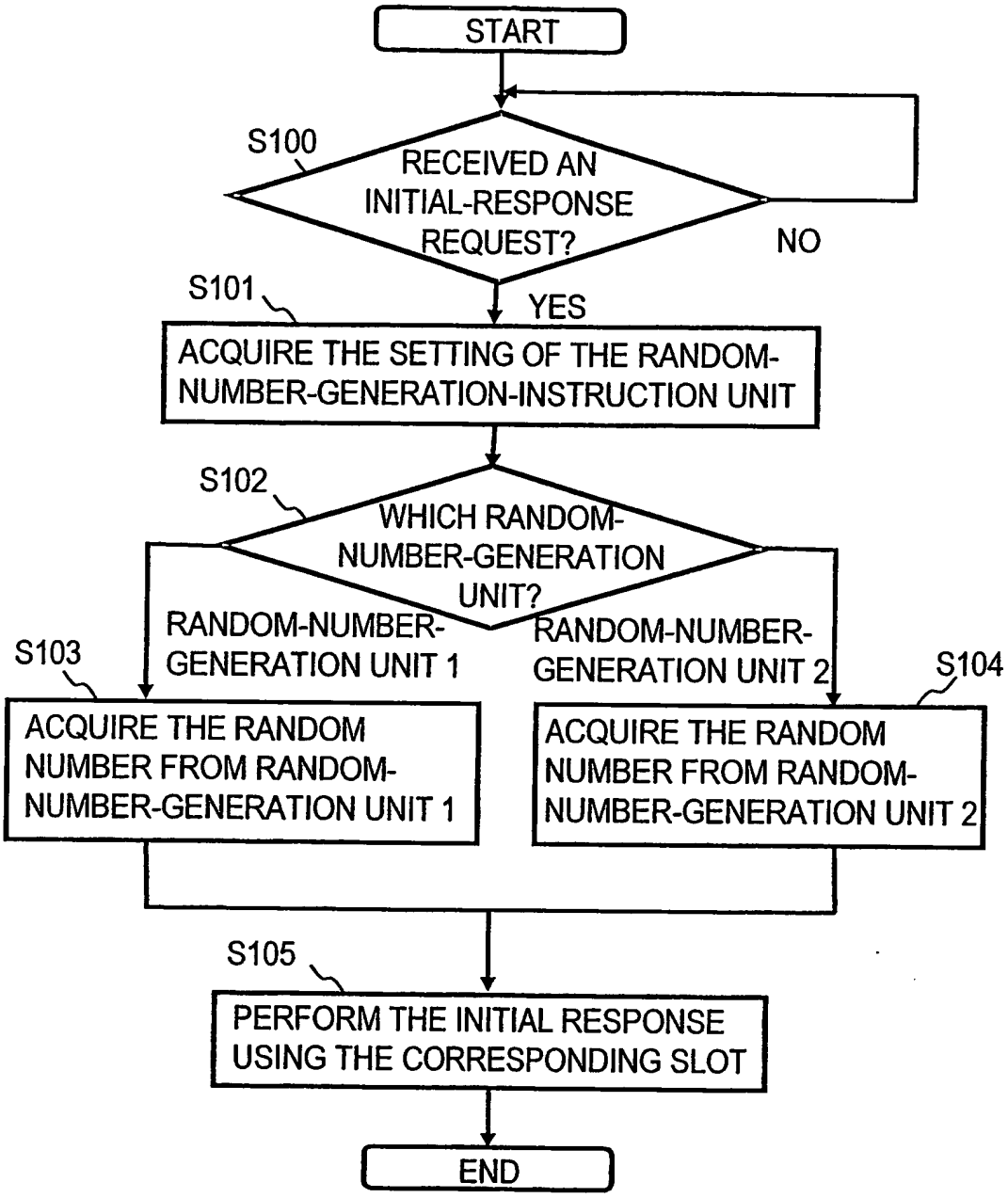
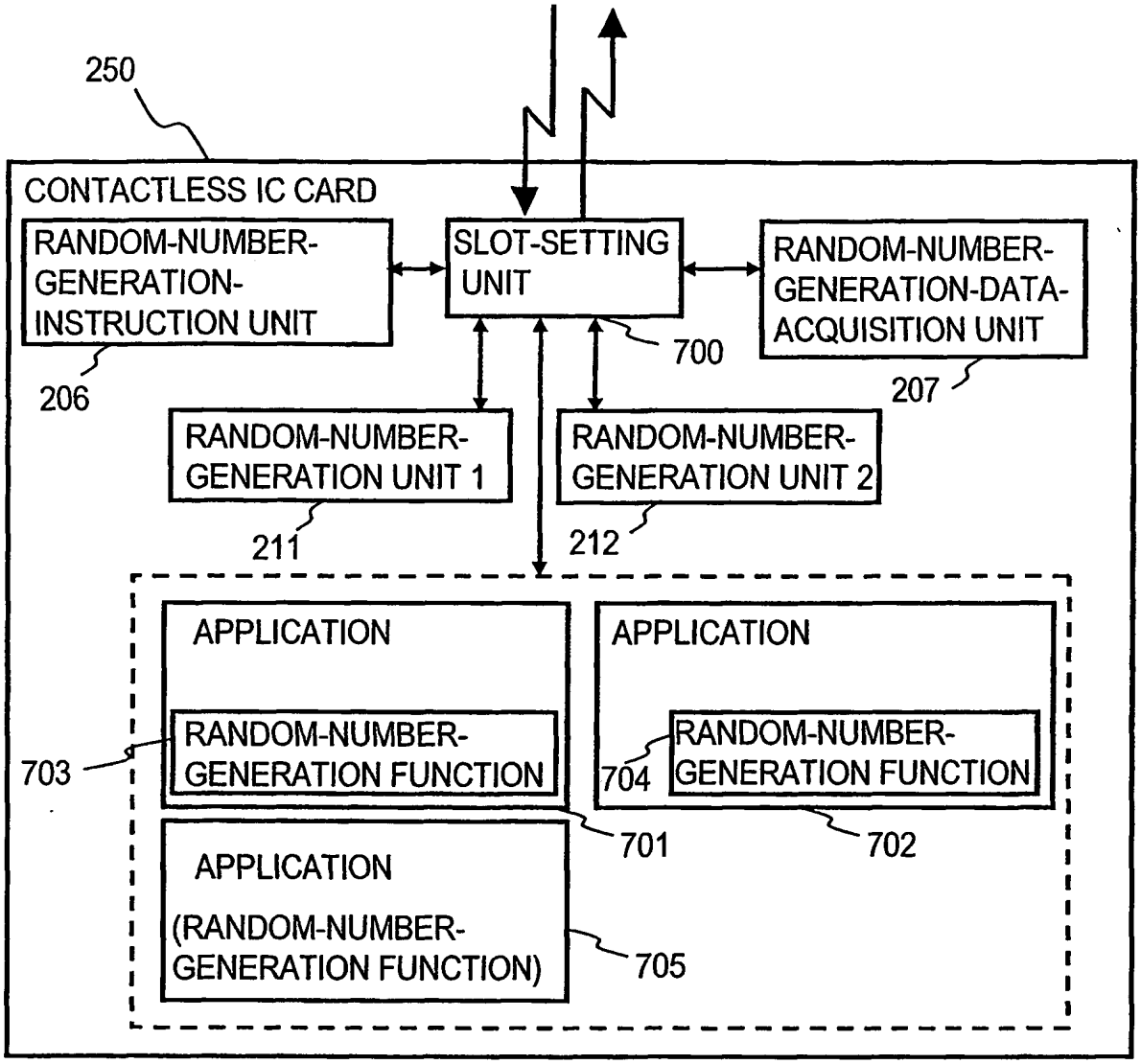

START
S100
RECEIVED AN INITIAL-RESPONSE REQUEST?
NO
YES
S101
ACQUIRE THE SETTING OF THE RANDOM-NUMBER-GENERATION-INSTRUCTION UNIT
S102
WHICH RANDOM-NUMBER-GENERATION UNIT?
RANDOM-NUMBER-GENERATION UNIT 1
RANDOM-NUMBER-GENERATION UNIT 2
S103
ACQUIRE THE RANDOM NUMBER FROM RANDOM-NUMBER-GENERATION UNIT 1
S104
ACQUIRE THE RANDOM NUMBER FROM RANDOM-NUMBER-GENERATION UNIT 2
S105
PERFORM THE INITIAL RESPONSE USING THE CORRESPONDING SLOT
END

FIG.8


250
CONTACTLESS IC CARD
RANDOM-NUMBER-GENERATION-INSTRUCTION UNIT
206
SLOT-SETTING UNIT
700
RANDOM-NUMBER-GENERATION-DATA-ACQUISITION UNIT
207
RANDOM-NUMBER-GENERATION UNIT 1
211
RANDOM-NUMBER-GENERATION UNIT 2
212
APPLICATION
RANDOM-NUMBER-GENERATION FUNCTION
703
701
APPLICATION
RANDOM-NUMBER-GENERATION FUNCTION
704
702
APPLICATION
(RANDOM-NUMBER-GENERATION FUNCTION)
705

10/517056

FIG.9

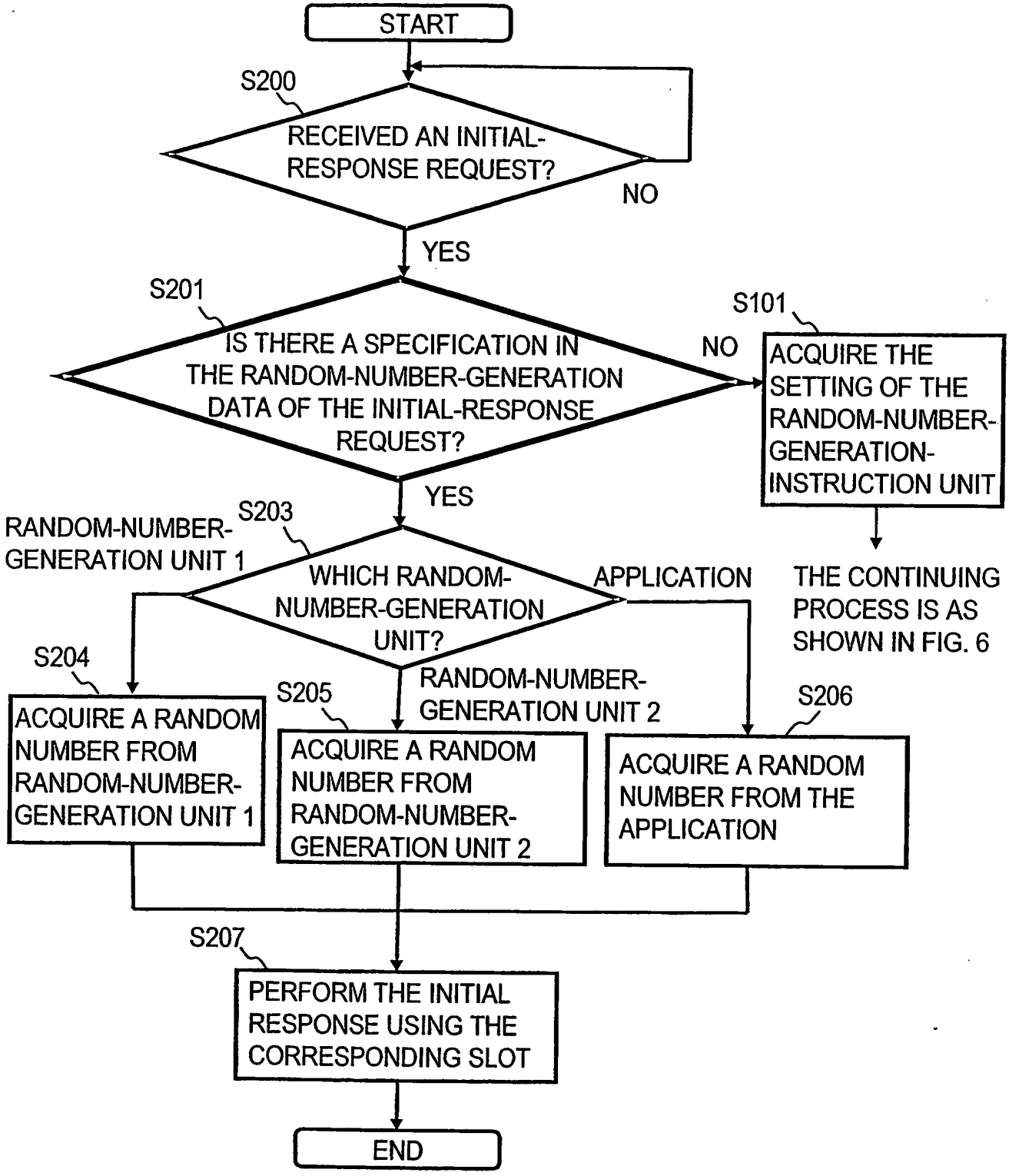


FIG.10A

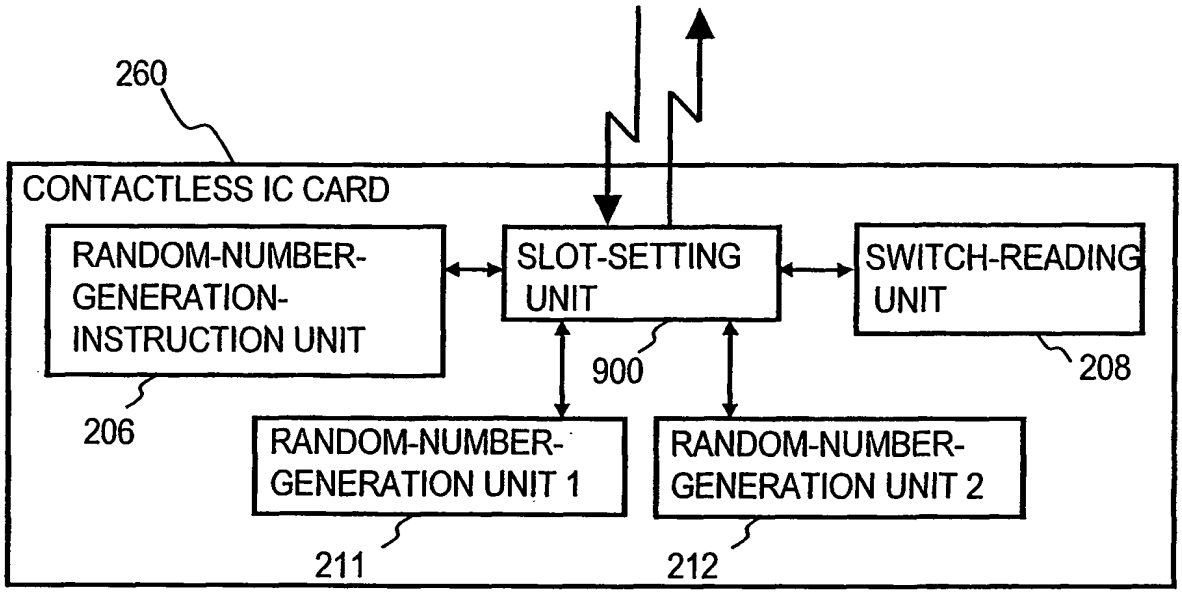


FIG.10B

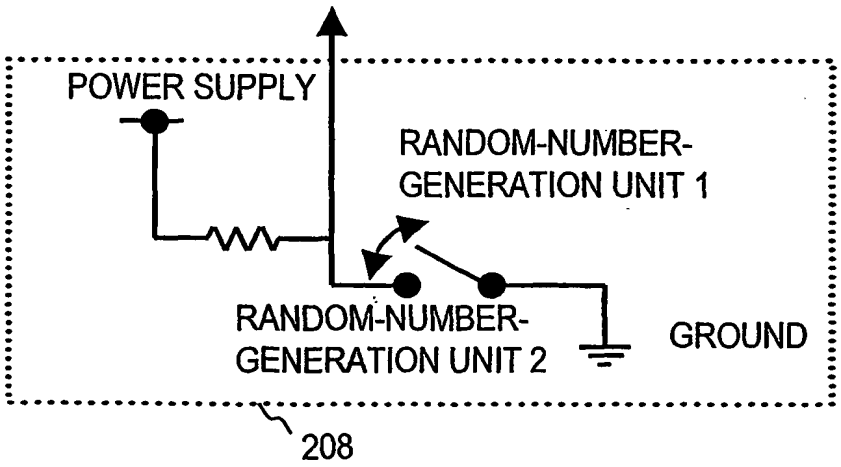
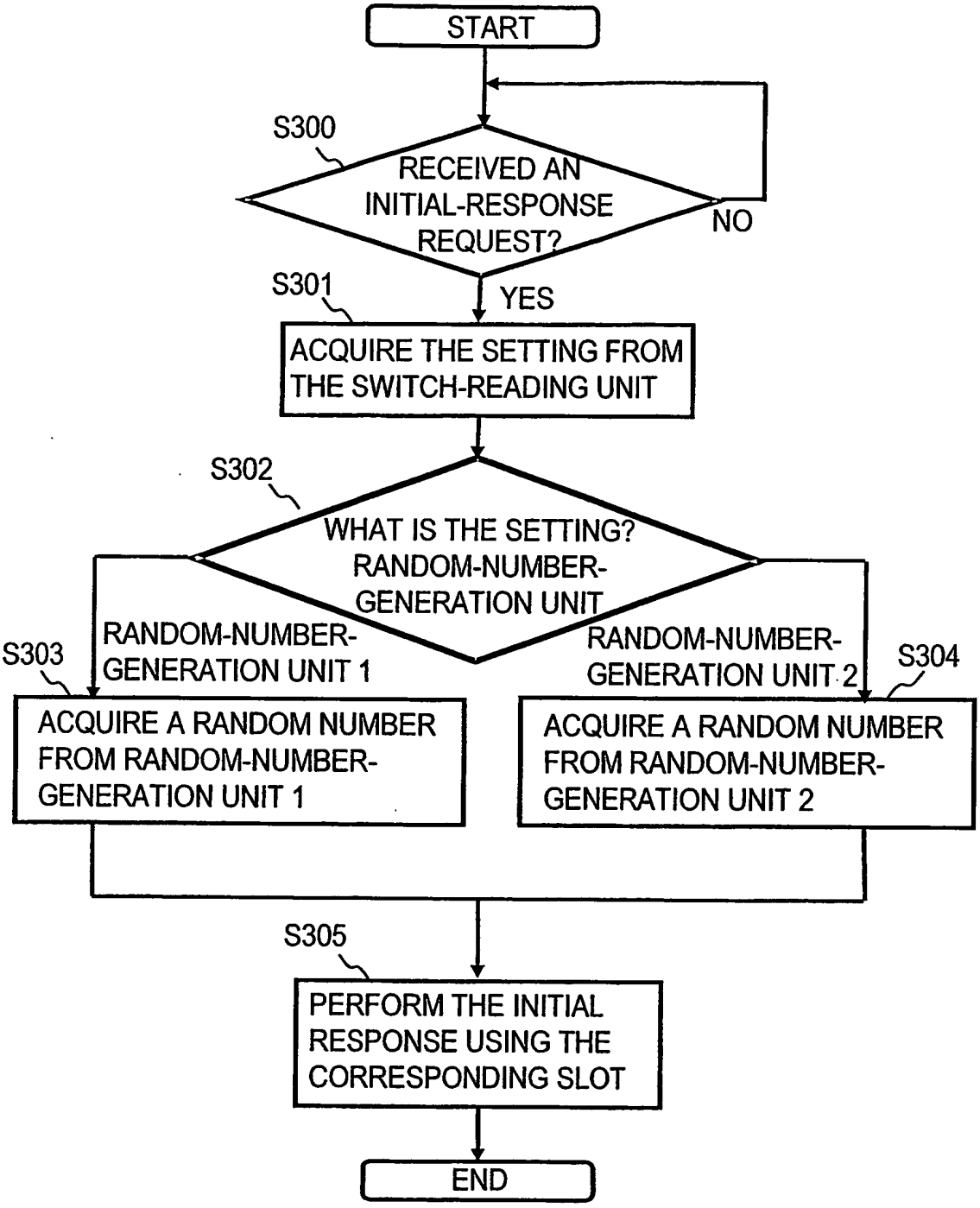


FIG.11


START
S300
RECEIVED AN INITIAL-RESPONSE REQUEST?
NO
YES
S301
ACQUIRE THE SETTING FROM THE SWITCH-READING UNIT
S302
WHAT IS THE SETTING? RANDOM-NUMBER-GENERATION UNIT
RANDOM-NUMBER-GENERATION UNIT 1
RANDOM-NUMBER-GENERATION UNIT 2
S303
ACQUIRE A RANDOM NUMBER FROM RANDOM-NUMBER-GENERATION UNIT 1
S304
ACQUIRE A RANDOM NUMBER FROM RANDOM-NUMBER-GENERATION UNIT 2
S305
PERFORM THE INITIAL RESPONSE USING THE CORRESPONDING SLOT
END